

Translation

PATENT COOPERATION TREATY  
PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>TOKO4006</b>	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. <b>PCT/JP2004/008959</b>	International filing date (day/month/year) <b>18.06.2004</b>	Priority date (day/month/year) <b>20.06.2003</b>	
International Patent Classification (IPC) or national classification and IPC			
<p>Applicant <b>TOKUYAMA CORPORATION</b></p>			

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <b>6</b> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of <b>9</b> sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>																								
<p>4. This report contains indications relating to the following items:</p> <table> <tbody> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </tbody> </table>	<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input checked="" type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/008959

Box No. I	Basis of the report
<p>1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.</p> <p><input type="checkbox"/> This report is based on translations from the original language into the following _____, which is the language of a translation furnished for the purposes of:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> international search (Rule 12.3 and 23.1(b))</li> <li><input type="checkbox"/> publication of the international application (Rule 12.4)</li> <li><input type="checkbox"/> international preliminary examination (Rule 55.2 and/or 55.3)</li> </ul> <p>2. With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):</p> <p><input type="checkbox"/> the international application as originally filed/furnished</p> <p><input checked="" type="checkbox"/> the description: pages <u>2-17, 19-72</u> as originally filed/furnished pages* <u>1, 18</u> received by this Authority on <u>18.04.2005</u> pages* _____ received by this Authority on _____</p> <p><input checked="" type="checkbox"/> the claims: nos. <u>9</u> as originally filed/furnished nos.* _____ as amended (together with any statement) under Article 19 nos.* <u>2-6, 8, 10-11</u> received by this Authority on <u>18.04.2005</u> nos.* _____ received by this Authority on _____</p> <p><input type="checkbox"/> the drawings: sheets _____ as originally filed/furnished sheets* _____ received by this Authority on _____ sheets* _____ received by this Authority on _____</p> <p><input type="checkbox"/> a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.</p> <p>3. <input checked="" type="checkbox"/> The amendments have resulted in the cancellation of:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> the description, pages _____</li> <li><input checked="" type="checkbox"/> the claims, nos. <u>1, 7</u> _____</li> <li><input type="checkbox"/> the drawings, sheets/figs _____</li> <li><input type="checkbox"/> the sequence listing (specify): _____</li> <li><input type="checkbox"/> any table(s) related to sequence listing (specify): _____</li> </ul> <p>4. <input type="checkbox"/> This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> the description, pages _____</li> <li><input type="checkbox"/> the claims, nos. _____</li> <li><input type="checkbox"/> the drawings, sheets/figs _____</li> <li><input type="checkbox"/> the sequence listing (specify): _____</li> <li><input type="checkbox"/> any table(s) related to sequence listing (specify): _____</li> </ul>	

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.  
PCT/JP2004/008959

Box No. V      Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	2-6, 8-11	YES
	Claims		NO
Inventive step (IS)	Claims	2-6, 8-11	YES
	Claims		NO
Industrial applicability (IA)	Claims	2-6, 8-11	YES
	Claims		NO

## 2. Citations and explanations (Rule 70.7)

The written opinion was formed based on the following documents cited in the international search report:

Document 1: Twardowski, T.E. et al., J.M.S. - Pure Appl.

Chem., 1993, A30 (1), pages 75 to 89

Document 2: Smyth, H.F. et al., American Industrial

Hygiene Association Journal, 1969, 30(5),  
pages 470 to 476

Document 3: US 3297724 A (McMonnell, R.L.)

Document 4: US 3404102 A (Starcher, P.S.)

Document 5: JP 2000-302774 A (Ube Industries, Ltd.)

Document 6: JP 2001-81286 A (Sumitomo Bakelite Co., Ltd.)

Document 7: GB 982151 B (Ciba Limited)

Document 8: CH 456949 A5 (CIBA Aktiengesellschaft)

Document 9: JP 60-124608 A (Japan Synthetic Rubber Co.,  
Ltd.)

Claims 2 to 6 and 8 to 11

Document 1 (fig. 2 and 3 in particular) indicates with regard to an epoxy resin used for diverse applications, that 2,7-dihydroxy naphthalene converted into a diglycidyl exhibits hardening properties, and discloses the form of polymerization of said hardening compound. Document 2 sets forth 2,5-bis (allyloxy)

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Box No. V      **Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

norbornene. Documents 3 and 4 (particularly embodiments) set forth a compound having a di-epoxy structure for forming a polymer resin, and indicate as a method for producing said compound that a hydroxy compound is transformed into an alcoholate, which is then substituted with an allyl group and the allyl group is oxidized. Documents 5 to 8 (particularly embodiments) indicate that a compound having an oxethane structure or epoxy structure is hardened by a polymerization reaction to form a resin, and that said resin is used to attach in contact or coat semiconductor parts.

Here, comparing the inventions set forth in claims 2 to 6 and claims 8 to 11 with the inventions set forth in documents 1 to 8, the two differ in that in the inventions of this application the groups with valences of 2 to 6 derived from polycyclic hydrocarbon compounds are adamantane groups, and alkali metal or alkali metal hydrides are used in the production process thereof.

Meanwhile, document 9 sets forth a polymer used as a sealant for optical materials and electrical components, wherein adamantane derivatives are used to carry out polymerization, and a method for producing said adamantane derivatives, but these would be common knowledge to a person skilled in the art.

However, in the response to the written opinion and the certificate of experimental results attached thereto dated 18 April 2005, the applicant indicates using specific experimental results that it is not possible to implement the compounds and production method thereof

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Box No. V	<b>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</b>
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which are the invention set forth in the claims of this application using the production methods set forth in documents 1 to 8. The applicant also asserts that the method set forth in document 9 contains dramatically different steps to the production method of this application. That being the case, it would not be easy for a person skilled in the art to conceive of the inventions set forth in claims 2 to 6 and 8 to 11 of this application in the light of these documents.

Therefore the inventions set forth in claims 2 to 6 and 8 to 11 are novel and involve an inventive step in relation to documents 1 to 9.

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**Box No. VII      Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:

**Claim 11**

In the amendment dated 18 April 2005, the formula number and structural formula relating to claim 11 are amended, but these amendments are not indicated in the format "11. (amended)".

(Article 31 and Form 15 of the Regulations Under the Patent Law, PCT Regulations 66.8(a), PCT Administrative Instruction No. 205)

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